SANTA CLARA COUNTY FLOOD CONTROL
AND
WATER DISTRICT

REPORT
ON
PROPOSED IMPROVEMENTS
ON
ADOBE CREEK
(EL MONTE ROAD TO TEPA WAY)

Zone NW-1

Project Number 10010

August 1973

TC
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A36.R4
1973
REF

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TC425A36R41973c.4

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AND
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REPORT
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ADOBE CREEK
(EL MONTE ROAD TO TEPA WAY)

ZONE NW-1 (NORTHWEST)

August 1973

John T. O'Halloran	Lloyd C. Fowler
General Manager	Chief Engineer

DISTRICT BOARD OF DIRECTORS

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SANTA CLARA COUNTY
FLOOD CONTROL
WATER DISTRICT
5750 ALMADEN EXPRESSWAY • SAN JOSE, CALIFORNIA 95118 • (408) 265-2600

August 7, 1973

Honorable Board of Directors
Santa Clara County Flood Control
and Water District
5750 Almaden Expressway
San Jose, California 95118

Gentlemen:

Transmitted herewith is the Engineer's Report on proposed flood control improvements on a critical reach of Adobe Creek, Project Number 10010. This report revises a portion of the Report on Adobe Creek Improvement Project No. NW-1-4 prepared for the District in 1956.

The critical reach of Adobe Creek extends over 2300 feet from 200 feet easterly of El Monte Road to 400 feet westerly of Tepa Way. The proposed improvements on this reach consist of a short vertical-walled channel, concrete box culvert, about 2100 feet of eight-foot diameter pipe, a diversion structure and appurtenant facilities. The cost of the proposed improvements is estimated to be $432,400.

The proposed improvement, when completed, will prevent major flooding of the existing and proposed development in the area adjacent to this reach of Adobe Creek.

I concur with the project as proposed and recommend a public hearing be held as a prerequisite to construction of the project.

Sincerely yours,

John T. O'Halloran
General Manager

Enclosure

AN EQUAL OPPORTUNITY EMPLOYER

Introduction

This report was prepared in order to revise a portion of the Report on Adobe Creek Improvement Project No. NW-1-4 prepared for the District and adopted by the Board of Supervisors on August 6, 1956.

The El Monte Road to Tepa Way reach of Adobe Creek contained in the above report has experienced substantial residential development of its floodplain. As a result of this development a severe flooding hazard exists. The existing creek is insufficient to handle the runoff and the improvement proposed in the 1956 report is unacceptable to the residents of the area. The earth lined channel proposed in 1956 would require a major right of way purchase which would encroach into adjacent developed properties and require the removal of existing creek vegetation destroying the natural stream setting which exists today.

As a result of objections from the residents in the area and the Town of Los Altos Hills, the Santa Clara County Flood Control and Water District began the preliminary design phase for the improvement of this critical reach of Adobe Creek. Meetings were conducted with the Town Council and a citizens advisory committee was appointed by the council to help in the selection of design alternatives.

After considering a large number of alternatives, the consensus of the Adobe Creek Committee was that they favored the alternative of a diversion pipe down Adobe Lane and would recommend to the planning commission and the Town Council that the town ask the District to construct this alternative. This recommendation was adopted by the Town Council on September 5, 1972.

This report has been prepared by the District and reflects the mutual desires of the local citizenry and the Town of Los Altos Hills.

A planning study is currently underway to develop the most desirable way to provide flood and erosion protection for the reach of Adobe Creek upstream of El Camino Real. The reach of Adobe Creek which is the subject of this report is part of this overall study, but was deemed critical enough to be handled separately on an accelerated schedule. Therefore, it is proposed that the work described in this report for the critical reach be constructed as soon as possible (200 feet easterly of El Monte Road to 400 feet westerly of Tepa Way).

Description of Watershed

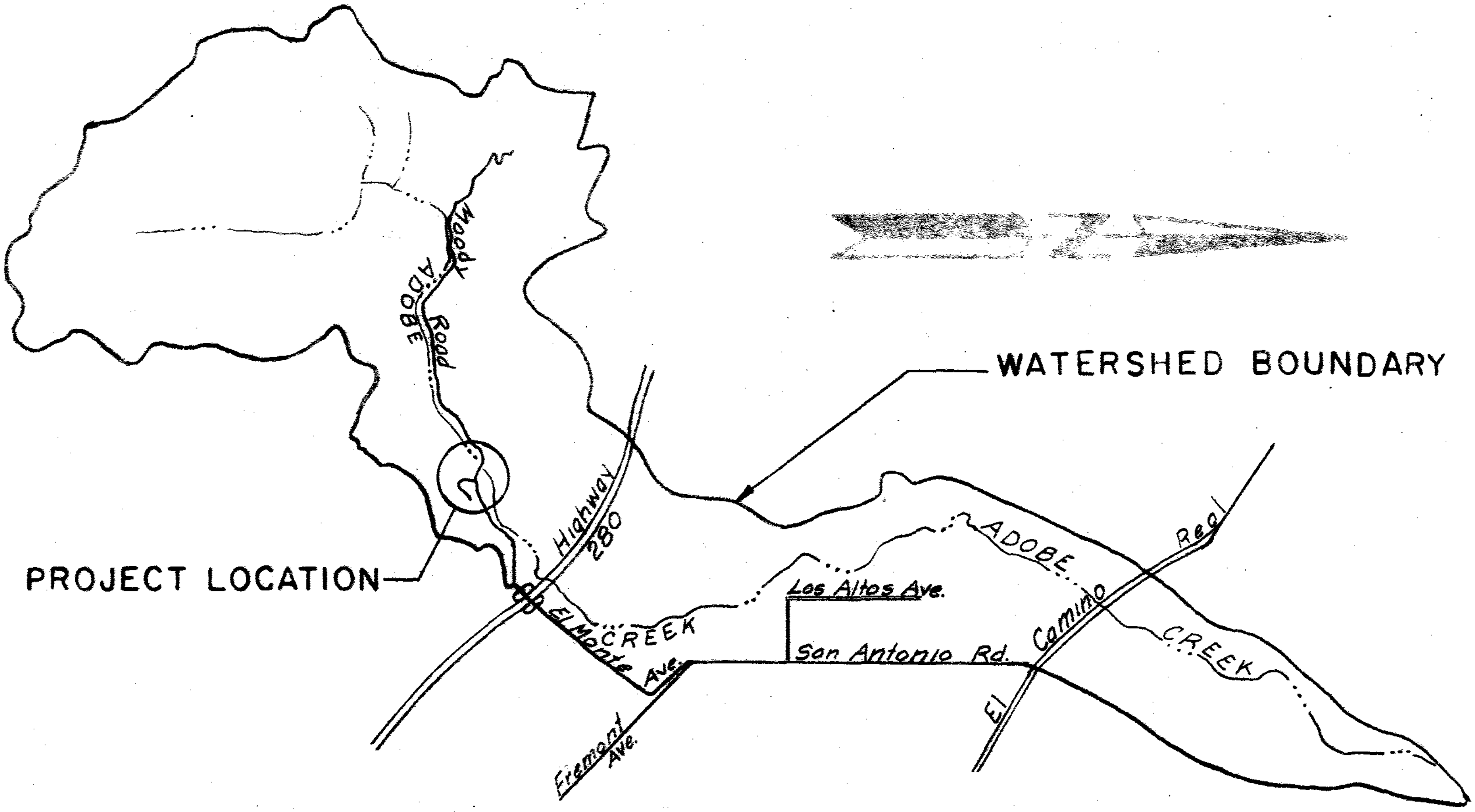
Adobe Creek watershed is shown on Plate 1, a general map of the area. Originating on the easterly slope of the Santa Cruz Mountains it flows through the communities of Los Altos, Los Altos Hills and Palo Alto. It has a total watershed area of about 10 square miles, of which 7.2 square miles is hill land and 2.8 square miles is in the valley floor. The total watershed area above the proposed project is 5.4 square miles.

The mean annual precipitation for this watershed is about 27 inches with most of the rain falling during the winter months of November through March. Due to the location and hilly nature of the watershed the stream flows reflect the high intensity and short duration rainfall with high discharges of short duration occurring in the winter. In the summer months the watershed yields very low flows at the project site. The crest of the hills that form the Adobe Creek watershed reaches an elevation of about 2700 feet.

The hill lands are characteristically vegetated with trees and brush and lightly populated with residential developments.

Project Description

The proposed improvements consist of diverting about 1,000 cubic feet per second of the anticipated flood flows through a 96-inch diversion pipeline. The remaining flood flows will be



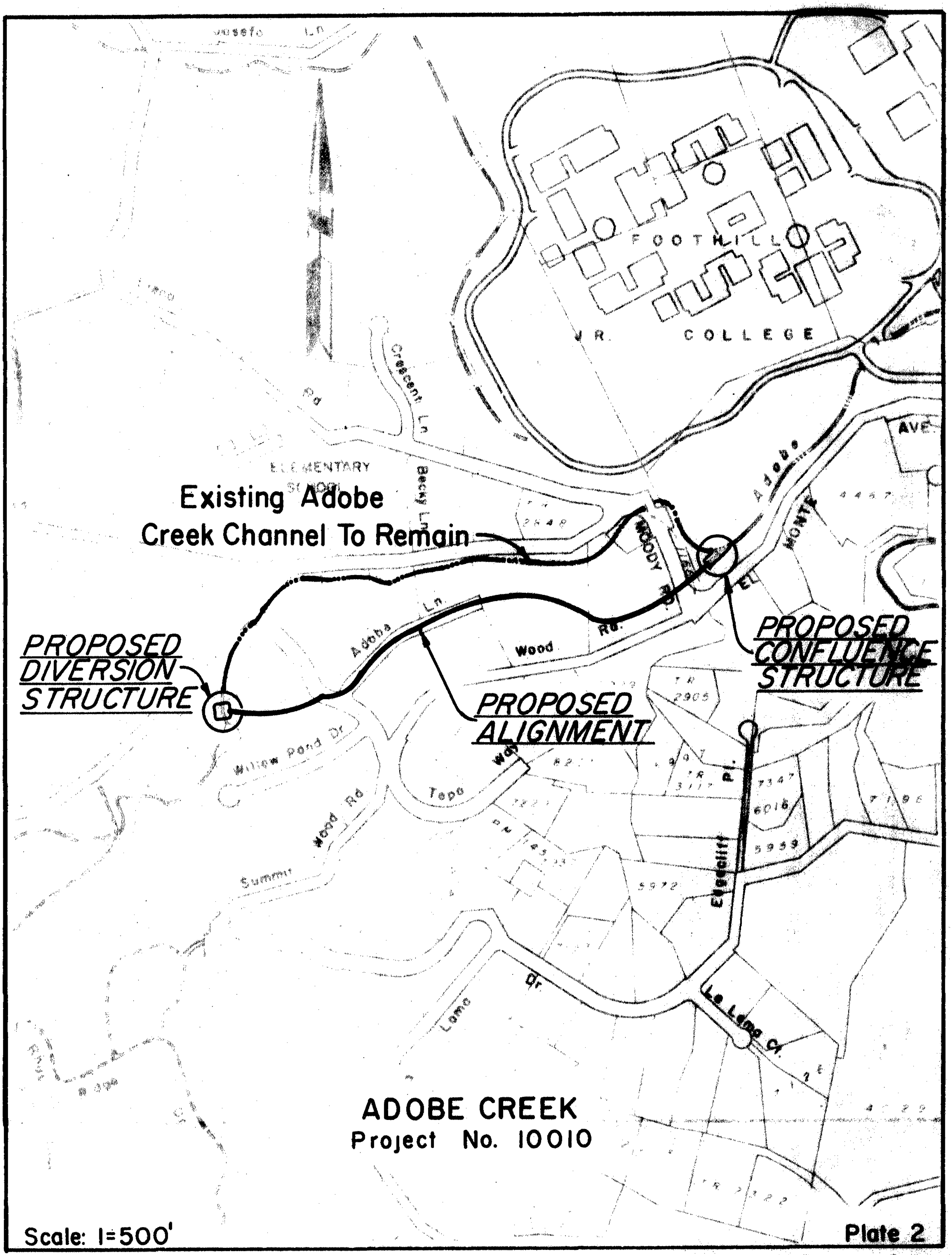
ADOBE CREEK WATERSHED

PLATE - I

allowed to continue to flow in the existing creek channel. It will be necessary to remove some of the undergrowth along the existing channel so that it can safely carry the portion of flow which is not diverted. The proposed location of the diversion structure, the pipeline, and the confluence structure is shown on Plate 2.

The section of improvement below El Monte Road will confluence with the existing channel at the curve located southwest of the Foothill College parking lot. Starting at the downstream end of the project, the confluence structure will consist of a near-vertical walled section that will extend about 70 feet upstream. At that point the channel will transition to a concrete box culvert. Exposed concrete will be colored to match the characteristics of the area. The concrete box culvert will extend about 36 feet, then transition into an eight-foot-diameter pipe. The pipe will cross beneath El Monte Road and traverse about 2100 feet to the cul-de-sac at the easterly end of Adobe Lane. The pipe will follow a northwesterly alignment under Adobe Lane to Tepa Way and thence to its intersection with the existing Adobe Creek.

The entrance structure to the pipe at the creek will be a covered concrete box culvert with an upstream opening 20 feet wide and 6 feet high. A sacked concrete and concrete wall



Existing Adobe Creek Channel To Remain

PROPOSED DIVERSION STRUCTURE

PROPOSED ALIGNMENT

PROPOSED CONFLUENCE STRUCTURE

ADOBE CREEK

Project No. 10010

Scale: 1=500'

Plate 2

transition will be constructed at the diversion entrance to alleviate local erosion and scour in the existing creek at the entrance structure. A concrete weir will be constructed across the existing creek downstream of the diversion entrance to facilitate diversion of the water. The weir will be constructed such that the initial flows in the creek will pass the diversion and flow down the existing channel. Landscaping will be provided to mitigate the results of the construction activity.

The proposed diversion, when constructed, will provide protection for the entire reach from near Tepa Way to El Monte Road against flooding from the standard design flood, which is the flood that has a one-percent chance of being equaled or exceeded in any year.

Project Costs and Financing

Estimates of the cost of construction for the proposed flood control improvements to Adobe Creek were made using current construction pricing. Right of way costs were estimated using current assessed valuation for land and improvements.

A contingency item was estimated to account for the costs of engineering, construction inspection, advertising, legal fees and other incidentals. The estimated costs were determined to be as follows:

Construction	$350,000
Engineering and Contingencies	64,400
Right of Way	18,000
Total	$432,400

The current assessed valuation of the Northwest Zone will provide an adequate source of funds from the current level of ad valorem taxes to finance the project, as proposed herein.

Conclusions and Recommendations

As a result of the investigation of the El Monte Road to Tepa Way reach of Adobe Creek the following conclusions and recommendations are made:

1. The existing natural creek channel is subject to erosion and is grossly inadequate to handle the anticipated flood flows.

2. The urban area in the vicinity of the creek is subject to flooding and could suffer major damage.

3. As the result of deliberation of a special local citizens committee and Town of Los Altos Hills government, the pipeline diversion alternative was determined to be the most desirable from both a flood control and aesthetics standpoint.

4. The estimated construction cost including contingencies and right of way is $432,400.

5. The project can be financed within the existing Northwest Zone tax structure.

Based on the above conclusions, it is recommended that the flood control improvement for Adobe Creek as proposed herein be approved and constructed as soon as construction plans can be prepared.

Submitted,

John H. Sutcliffe

John H. Sutcliffe
Associate Civil Engineer

APPROVAL RECOMMENDED:

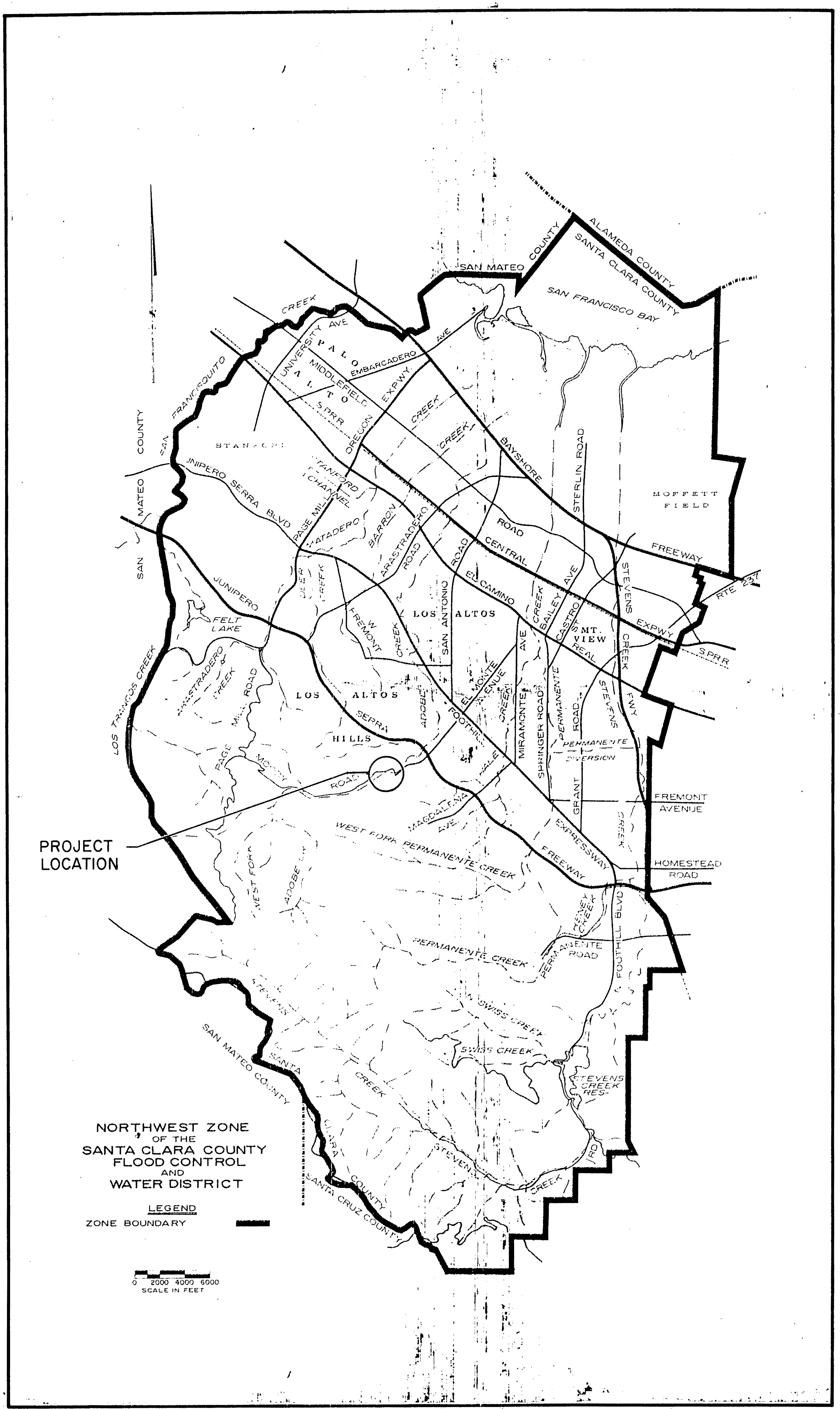
John L. Richardson

Head, Project Development Branch

APPROVED:

George Korbay

Design and Construction Manager



MAP AND CONSTRUCTION PLAN

For

ADOBE CREEK DIVERSION

From

200 Feet Easterly of El Monte Road

to

400 Feet Westerly of Tepa Way

SANTA CLARA COUNTY FLOOD CONTROL
AND
WATER DISTRICT

NORTHWEST FLOOD CONTROL ZONE **PROJECT NO. 10010**

INDEX

SHEET NO.	DESCRIPTION
1	MAP & TITLE PAGE
2-3	PLAN & PROFILE
4-16	DETAILS
	CROSS SECTIONS

$\frac{1}{10}$ 1 INDICATES DETAIL NUMBER
10 INDICATES NUMBER OF SHEET ON WHICH DETAIL APPEARS

$\frac{A}{10}$ A INDICATES SECTION
10 INDICATES NUMBER OF SHEET ON WHICH SECTION APPEARS

PROJECT APPROVAL:

George Korbay
DESIGN AND CONSTRUCTION MANAGER

Lloyd C Fowler
CHIEF ENGINEER

GENERAL MANAGER

DATE:

REFER TO TRACING FOR LATEST REVISION			
REV	DESCRIPTION	SUB	APPR

REFERENCE INFORMATION AND NOTES

1. Basis of Bearing: Bearing of line connecting C-1 to C-2 on Sh't. 3 - N36°32'45"W
2. Basis of Elevation: T.B.M. Moody #2 Chis □ on the upstream headwall @ North corner of bridge at Tepa Way and Adobe Creek - Elev. 357.16
3. ⊗ = Tree to be removed.
4. T.C.A. Temporary Construction Area
5. Expose and verify elevations of sanitary sewers prior to commencing work on sanitary sewer system.

DATE

DESIGN W. Hoeft, R. Howard

DRAWN R. Fitzgerald

CHECKED RWH

SANTA CLARA COUNTY FLOOD CONTROL
AND
WATER DISTRICT

ENGINEERING CERTIFICATION
Robert Howard
PROJECT ENGINEER
Bruce Wilson
DIVISION ENGINEER R.C.E. NO. 15851

ENGINEERING APPROVAL
Edwin Ferguson
HEAD, DESIGN BRANCH

ZONE NW-1

ADOBE CREEK
PLAN AND PROFILE

SCALE
AS SHOWN

SHEET
2

REFER TO TRACING FOR LATEST REVISION

REV	DESCRIPTION	SUB	APPR

REFERENCE INFORMATION AND NOTES

1. SEE SHEET 10 FOR DETAILS OF SANITARY WORK PROPOSED @ TEPA WAY AND ADOBE LANE.
2. ALL EXISTING & NEW SANITARY LINES CROSSING 8' PIPE ARE TO BE SUPPORTED IN BACKFILLED TRENCH SEE 5/11
3. ⊗ = TREE TO BE REMOVED.
4. T.C.A. TEMPORARY CONSTRUCTION AREA

DATE

DESIGN W. Hoeft R. Howard

DRAWN R. Fitzgerald

CHECKED RWH

SANTA CLARA COUNTY FLOOD CONTROL
AND
WATER DISTRICT

ENGINEERING CERTIFICATION
Robert Howard
PROJECT ENGINEER
Bruce Wilson
DIVISION ENGINEER R.C.E. NO. 15851

ENGINEERING APPROVAL
Edwin Ferguson
J. DESIGN BRANCH R.C.E. NO. 14455

ZONE NW-1

ADOBE CREEK
PLAN AND PROFILE

SCALE AS SHOWN

SHEET 3